

# Appendix A-4

## APPENDIX A-4

### **NO<sub>x</sub> AND SO<sub>2</sub> EMISSIONS REDUCTION REQUIREMENTS FOR HEATERS AND BOILERS AT THE MARTINEZ NON-PETROLEUM REFINERY FACILITY**

#### **A. Additional Definitions**

1. Definitions Applicable to Appendix A-4. Except as expressly set forth elsewhere in this Consent Decree, the terms used in this Appendix A-4 shall have the meaning given to those terms in this Appendix or in Section IV of this Consent Decree; or, if not defined in this Consent Decree, as defined in the Clean Air Act and the implementing regulations promulgated thereunder.

“Fuel Oil” shall mean fuel that is predominantly in the liquid phase at the point of combustion with a sulfur content of greater than 0.05% by weight.

“Martinez NPR Facility Covered Heater or Boiler” or “Martinez NPR Covered Heater or Boiler” shall mean each of the following 13 heaters or boilers at the Martinez NPR Facility as referred to by the names and BAAQMD source numbers in the Martinez Refinery Title V Permit: (i) No. 2 HDS Charge Heater F20 (BAAQMD Source No. S920); (ii) No. 2 HDS Depent Reboiler F19 (BAAQMD Source No. S919); (iii) No. 2 Reformer Splitter Reboiler F26 (BAAQMD Source No. S926); (iv) HDN Reactor A Heater F28 (BAAQMD Source No. S928); (v) HDN Reactor B Heater F29 (BAAQMD Source No. S929); (vi) HDN Reactor C Heater F30 (BAAQMD Source No. S930); (vii) Hydrocracker Reactor 1 Heater F31 (BAAQMD Source No. S931); (viii) Hydrocracker Reactor 2 Heater F32 (BAAQMD Source No. S932); (ix) Hydrocracker Reactor 3 Heater F33 (BAAQMD Source No. S933); (x) Hydrocracker Stablizer Reboiler F34 (BAAQMD Source No. S934); (xi) Hydrocracker Splitter Reboiler F35 (BAAQMD Source No. S935); (xii) Hydrogen Plant Heater F37 (BAAQMD Source No. S937); and (xiii) No. 3 HDS Recycle Gas Heater F55 (BAAQMD Source No. S973). Collectively, these 13 heaters or boilers shall be referred to as the “Martinez NPR Facility Covered Heaters and Boilers” or “Martinez NPR Covered Heaters and Boilers.”

“Non-Petroleum Refinery Fuel Gas” or “NPR Fuel Gas” shall mean any gas which is generated at the Martinez NPR Facility and which is combusted (including natural gas when the natural gas is combined and combusted in any portion with a gas generated at the Martinez NPR Facility).

“Non-Petroleum Refinery Fuel Gas Combustion Heater or Boiler” or “NPR Fuel Gas Combustion Heater or Boiler” shall mean any process heater or boiler at the Martinez NPR Facility used to combust Fuel Gas. NPR Fuel Gas Combustion Heater or Boiler does not include (i) flares; (ii) facilities in which gases are combusted to produce sulfur or sulfuric acid; or (iii) thermal oxidizers or flares installed to control emissions from wastewater treatment units (other than those processing sour water) or marine tank vessel loading operations.

## **B. NO<sub>x</sub> Emissions Reductions from the Martinez Non-Petroleum Refinery Facility Heaters and Boilers**

2. Martinez NPR Facility Covered Heaters and Boilers NO<sub>x</sub> Limit. Beginning no later than the date Tesoro submits the Notice of Conversion under Paragraph 59 of this Consent Decree, Tesoro shall comply with Sections 9-10-301 or 9-10-308 of BAAQMD Rule 9-10, as such provisions both relate to the Martinez NPR Facility Covered Heaters and Boilers and establish NO<sub>x</sub> emission limits for certain units, including the Martinez NPR Facility Covered Heaters and Boilers, based upon a refinery-wide emission rate of 0.033 pounds NO<sub>x</sub> per MMBtu of Section 9-10-301 or the alternative total mass emission limit established pursuant to Section 9-10-308. If BAAQMD revises Sections 9-10-301 or 9-10-308, such revisions shall become the applicable emission limits under this Paragraph 2 of this Appendix A-4 provided that the refinery-wide NO<sub>x</sub> emission limit remains no less stringent than the 0.033 pounds NO<sub>x</sub> per MMBtu average emission rate limit of Section 9-10-301 or the alternative total mass emission limit established pursuant to Section 9-10-308. Compliance with these requirements shall be determined in accordance with BAAQMD's rules and regulations. Sections 9-10-301 and 9-10-308, as adopted on November 3, 2021, shall be federally enforceable under this Consent Decree and shall survive termination of this Consent Decree as federally-enforceable requirements applicable to the Martinez NPR Facility Covered Heaters and Boilers even if these requirements have not become part of the applicable SIP.

3. Reporting. Tesoro shall report compliance with this Section B of Appendix A-4 by submitting the following information on a semi-annual basis pursuant to Section X (Reporting and Recordkeeping): (i) a summary of the data obtained from the CEMS or equivalent parametric monitoring system and the fuel meters installed to comply with BAAQMD Rule 9-10; (ii) the date, time, duration, and magnitude of emissions in excess of the NO<sub>x</sub> limit in Paragraph 2 of this Appendix A-4; (iii) the nature and cause of such excess emissions (if known); (iv) the corrective action taken in response to such excess emissions; and (v) the preventive measures adopted in response to such excess emissions.

## **C. SO<sub>2</sub> Emissions Reductions from the Martinez Non-Petroleum Refinery Facility Heaters and Boilers**

4. Elimination of Fuel Oil Burning. Beginning no later than the date Tesoro submits the Notice of Conversion under Paragraph 59 of this Consent Decree, Tesoro shall not burn or combust Fuel Oil in any heater or boiler at the Martinez NPR Facility.

5. H<sub>2</sub>S Limit. Beginning no later than the date Tesoro submits the Notice of Conversion under Paragraph 59 of this Consent Decree, Tesoro shall not burn in any NPR Fuel Gas Combustion Heater or Boiler any Fuel Gas that contains H<sub>2</sub>S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis (i.e., the arithmetic average of three contiguous 1-hour averages). The H<sub>2</sub>S limit of this Paragraph 5 of Appendix A-4 shall not apply during periods of Startup, Shutdown, or Malfunction of a NPR Fuel Gas Combustion Heater or Boiler or Malfunction of the associated H<sub>2</sub>S control equipment, if any, provided that during such periods Tesoro, to the extent practicable, maintains and operates the NPR Fuel Gas Combustion Heater or Boiler, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

6. Demonstrating Compliance with the H<sub>2</sub>S Limit. Beginning no later than the date Tesoro submits the Notice of Conversion under Paragraph 59 of this Consent Decree, Tesoro shall use H<sub>2</sub>S CMS to monitor performance of each NPR Fuel Gas Combustion Heater or Boiler and to report compliance with the terms and conditions of this Section C. H<sub>2</sub>S CMS shall be used to demonstrate compliance with the H<sub>2</sub>S limit established pursuant to this Section C by continuously monitoring and recording the concentration by volume (dry basis) of H<sub>2</sub>S in fuel gases before being burned in any NPR Fuel Gas Combustion Heater or Boiler. Tesoro shall make H<sub>2</sub>S CMS data available to EPA upon request. Tesoro shall install, certify, calibrate, maintain, and operate all H<sub>2</sub>S CMS required by this Paragraph in accordance with the provisions of 40 C.F.R. § 60.13 that are applicable to H<sub>2</sub>S CMS (excluding those provisions applicable only to COMS) and Part 60, Appendices A and F, and the applicable performance specification test of 40 C.F.R. Part 60, Appendix B, including, but not limited to, (i) Performance Specification 7 of Appendix B to Part 60; and (ii) for conducting relative accuracy evaluations, Method 11, 15, or 15A of Appendix A-5 to Part 60 or Method 16 of Appendix A-6 to Part 60. With respect to 40 C.F.R. Part 60 Appendix F, in lieu of the requirements of 40 C.F.R. Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, Tesoro shall conduct either a RAA or a RATA on each H<sub>2</sub>S CMS at least once every three (3) years. Tesoro shall also conduct CGAs each Calendar Quarter during which a RAA or a RATA is not performed. Tesoro may conduct a FAT in lieu of the required RAA or CGA. The span value for the H<sub>2</sub>S CMS shall be 300 ppmv H<sub>2</sub>S.

a. Single H<sub>2</sub>S CMS for Multiple NPR Fuel Gas Combustion Heaters or Boilers. NPR Fuel Gas Combustion Heaters or Boilers having a common source of Fuel Gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H<sub>2</sub>S in the Fuel Gas being burned in the respective NPR Fuel Gas Combustion Heaters or Boilers.

b. Exemption from Monitoring Requirements for Certain Fuel Gas Streams. NPR Fuel Gas Combustion Heaters or Boilers are not required to monitor the following Fuel Gas streams: (i) pilot gas for heaters; (ii) Fuel Gas streams that meet a commercial-grade product specification for sulfur content of 30 ppmv or less; or (iii) Fuel Gas streams produced in process units that are intolerant to sulfur contamination (e.g., Fuel Gas streams produced in the hydrogen plant). Tesoro may also submit for EPA approval a written application for an exemption from monitoring for a Fuel Gas stream Tesoro demonstrates is inherently low in sulfur, with such application containing all the information in 40 C.F.R. § 60.105(b)(1)(i)-(v).

7. Recordkeeping, Reporting, and Other Compliance Requirements. In addition to complying with the provisions of 40 C.F.R. § 60.13 that are applicable to H<sub>2</sub>S CMS as required by Paragraph 6 of this Appendix A-4, Tesoro shall comply with the following recordkeeping, reporting, and compliance requirements:

a. Recordkeeping. Tesoro shall maintain records of the occurrence and duration of any Startup, Shutdown, or Malfunction in the operation of a NPR Fuel Gas Combustion Heater or Boiler; any Malfunction of the air pollution control equipment; or any periods during which a CMS is inoperative. Tesoro shall maintain a file of all measurements, including CMS and performance testing measurements; all CMS performance evaluations; all CMS calibration checks; adjustments and maintenance performed on any CMS; and all other information required by this Section C of Appendix A-4 in a permanent form suitable for inspection.

b. Reporting. Tesoro shall report compliance with this Section C of Appendix A-4 by submitting an excess emissions and monitoring systems performance report and/or a summary report form in accordance with the provisions of 40 C.F.R. § 60.7(c)-(d) on a semi-annual basis pursuant to Section X (Reporting and Recordkeeping).

c. General Duty Requirements. At all times, including periods of Startup, Shutdown, and Malfunction, Tesoro shall, to the extent practicable, maintain and operate NPR Fuel Gas Combustion Heater or Boiler, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.

d. Circumvention. Tesoro shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of the requirements of this Section C of Appendix A-4. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with a limit which is based on the concentration of a pollutant in the gases discharged to the atmosphere.